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IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Ernest J. CLAXTON, III et al.

Appl. No.: 09/034,313

Filed: March 4, 1998

Conf.:

For: FIELD-SERVICEABLE SOLIDS HANDLING
VERTICAL TURBINE PUMP

Before the Board of Appeals

Appeal No.:

Group: 3745

Examiner: VERDIER, C.

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Assistant Commissioner for Patents
Washington, D.C. 20231:

January 29, 2001

Sir:

Transmitted herewith is an Appeal Brief (in triplicate) on behalf of the Appellants in connection with the above-identified application.

The enclosed document is being transmitted via the Certificate of Mailing provisions of 37 C.F.R. 1.8.

A Notice of Appeal was filed on ____.

Applicant claims small entity status in accordance with 37 C.F.R. § 1.27

The fee has been calculated as shown below:

- Extension of time fee pursuant to 37 C.F.R. §§ 1.17 and 1.136(a) - \$110.00 - one (1) month (large entity)
- Fee for filing an Appeal Brief - \$310.00 (large entity).
- A check in the amount of \$420.00 is attached.
- Please charge Deposit Account No. 02-2448 in the amount of \$0.00. A triplicate copy of this sheet is attached.

Appl. No. 09/034,313

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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APPEAL BRIEF

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Appendix of Claims

A1-A3

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**APPEAL BRIEF ON BEHALF
OF APPELLANTS:
ERNEST J. CLAXTON, III ET AL.**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I. **REAL PARTY IN INTEREST**

The real party in interest for this application is the Assignee, Patterson
Pump Co., P.O. Box 790, Toccoa, Georgia, U.S.A.

II. **RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences pending with respect to the
subject matter of the present application.

III. **STATUS OF CLAIMS**

Claims 1-16, 19-21, and 24-26 remain pending, claims 17, 18, 22, and
23 having been cancelled in the Reply dated February 14, 2000. Claims 1-14
and 26 stand allowed. Claims 15, 16, 19-21, 24, and 25 were rejected in the
Final Office Action dated July 27, 2000.

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IV. STATUS OF AMENDMENTS

No amendments have been presented after the Final Rejection.

V. SUMMARY OF THE INVENTION

The present invention is directed to a vertical turbine pump, such as of the type used to handle solids-laden liquids, e.g., sewage. More specifically, the present invention is directed to a vertical turbine pump having a configuration that allows the operator to readily service the pump in the field. As shown in FIGS. 1-2, a disclosed embodiment includes a bowl assembly ("pump bowl") 10, a discharge conduit 24, and a discharge elbow 30. The pump bowl 10 has a casing that includes a bulbous diffuser section 12 located between narrow upstream and downstream sections 14, 16. A diffuser core 18 is provided within the casing diffuser section 12. A plurality of diffuser vanes 20 are spaced around the diffuser core 18.

A suction bell 22, which is disposed below the surface of the liquid to be pumped during typical operation, is connected to the casing upstream section 14. The discharge conduit 24 is connected on one end to the casing downstream section 16 and is connected to the discharge elbow 30 on the other end.

A pump drive shaft 36 extends centrally and axially through the discharge elbow 30, the discharge conduit 24, and the diffuser core 18. An impeller 38, having spirally oriented vanes, is fastened to the lower end of drive shaft 36 within the casing upstream section 14 and beneath the diffuser core 18. During operation, the impeller 38 rotates to generate a flow of liquid

upward through a passage within the casing diffuser section 12, through the discharge conduit 24 and the discharge elbow 30.

As shown in FIG. 3, the disclosed vertical turbine pump configuration includes a bearing cartridge 56 having a tubular housing 58. The tubular housing 58 is detachably secured within the diffuser core 18 to surround the drive shaft 36. In the embodiment illustrated in FIG. 3, a pair of axially spaced bearings 54 and 52, e.g., formed of metal or elastomeric sleeves, are fixed within the tubular housing 58 to surround and rotatably support the drive shaft 36.

With this disclosed vertical turbine pump configuration, the bearing cartridge 56 can be removed from the upstream direction of pump by simply separating the suction bell 22 from the pump bowl casing, removing the impeller 38 from the end of the drive shaft, and disengaging the bearing cartridge 56 from the diffuser core 18. Consequently, the entire pump does not have to be torn down to access the bowl bearing arrangement, which is particularly vulnerable to wear and degradation when handling solids-laden liquid. In this way, the turbine pump according to Appellants' invention may be serviced in the field by a single person with minimum delay and tools.

VI. THE OUTSTANDING REJECTION

The sole outstanding rejection for this appeal is the rejection of claims 15-16, 19-21, and 24-25 under the recapture rule.

VII. ISSUE ON APPEAL

The sole issue involved in this appeal is as follows:

In presenting claims 15-16, 19-21, and 24-25 in this Reissue Application, did Appellants violate the recapture rule by attempting to recapture a scope of invention that was surrendered during prosecution of Application Serial No. 08/321,857?

VIII. GROUPING OF CLAIMS

A common argument is presented below for both of the rejected independent claims 15 and 20, as well as for the rejected dependent claims. Thus, Appellants submit that all rejected claims stand or fall together.

IX. ARGUMENT

A. Summary of Argument

The Examiner's rejection under the recapture rule rests on the assertion that: "by affirmatively choosing to amend claim 1 [of U.S. Application No. 08/321,857] to include the allowable features of dependent claim 4 in order to obtain a patent, the patentees have effectively surrendered any subject matter broader than that recited in [claim 1 of U.S. Patent 5,496,150]." Stated another way, the Examiner's rejection stands for the proposition that, when an applicant rewrites an allowable dependent claim in independent form (i.e., by either amending a rejected independent claim to recite the features of the allowable dependent claim or by amending the allowable dependent claim to recite the features of the rejected independent claim), the recapture rule

precludes presenting a reissue claim that is materially broader than the patented claim, even if the reissue claim is materially narrower than the pre-amended claim. Appellants find no legal authority that supports such an expansive application of the recapture rule, and respectfully submit that such an expansive application is contrary to the established standard for defining “surrendered” claim scope.

Considering that the courts have consistently viewed the recapture rule as applying, if at all, to a reissue claim that is at least as broad as a pre-amended or canceled application claim, and considering that the claims at issue in this appeal are materially narrower than pre-amended independent claim 1 of U.S. Application 08/321,857 (“the ‘857 Application”), the recapture rule is inapplicable in this case. Furthermore, even if the recapture rule were to apply in this case, the details of the claimed “bearing cartridge” that have been included in reissue claims 15, 16, 19-21, 24, and 25 sufficiently narrow these claims to overcome the recapture rule.

B. Outstanding Rejection

In maintaining the rejection of claims under the recapture rule, the Examiner has concluded that Appellants effectively surrendered the scope of invention now recited in the appealed reissue claims during prosecution of the ‘857 Application. Specifically, the Examiner has concluded that Appellants surrendered the scope of reissue claims 15, 16, 19-21, 24, and 25 when claim 1 of the ‘857 application was amended to recite the incremental features of application claim 4. The Examiner reasons that:

The reissue claims have tried to remove claim language which was explicitly added to overcome a prior art rejection and therefore the reissue claims have been broadened in a material aspect, i.e., in an aspect that was material to the rejection that was overcome by adding the language now sought to be removed. [pg. 5, 4th ¶ of Final Office Action].

Addressing whether such a broadened aspect of the reissue claims is an attempt to recapture a previously surrendered scope of invention, the Examiner states:

On balance, reissue claims 15-16, 19-21, and 24-25 are broader in a manner directly pertinent to the subject matter that Applicants surrendered (what was added to then pending claim 1 to make it allowable and issue as patent claim 1) during prosecution of the patent. [page 5, 5th ¶ of Final Office Action].

Noting that Appellants amended claim 1 during prosecution of the '857 Application to incorporate allowable dependent claim 4, the Examiner concludes that:

[B]y affirmatively choosing to amend claim 1 to incorporate the allowable features of dependent claim 4 in order to obtain the patent, the patentees have effectively surrendered any subject matter broader than that recited in amended claim 1. [Pg. 6, ll. 16-19 of Final Office Action].

Thus, the Examiner's application of the recapture rule defines the "surrendered" claim scope in this case as any claim scope materially broader than patent claim 1, not application claim 1 as it read prior to the amendment that resulted in allowance. The Examiner cites no legal authority for such an expansive definition of "surrendered" claim scope. Furthermore, as discussed below, the Examiner's expansive definition of "surrendered" claim scope is contrary to that adopted by the Courts.

C. Relevant Case Law on the Recapture Rule

The relevant legal authority on the recapture rule, including the Federal Circuit and its predecessor court, have recognized that surrendered claim scope resulting from amending or canceling claims relates, when applicable at all, to a surrender of the pre-amended or canceled claim scope, and not a claim scope that is materially narrower than the pre-amended or canceled claim.

The Federal Circuit has established a multi-step analysis for determining when the recapture rule precludes a patentee from seeking a reissue claim that is materially broader than a patent claim. For example, the Federal Circuit's decision in *In re Clement*, 45 U.S.P.Q.2d 1161 (Fed. Cir. 1997) lists the following three steps for determining when the recapture rule applies:

- (1) First, the patented claims must be compared with the reissue claims "to determine whether and in what 'aspect' the reissue claims are broader than the patent claims." *Id.* at 1164;
- (2) Having recognized the broader aspects of the reissue claims, the next step is to determine whether such broader aspects "relate to surrendered subject matter." *Id.*; and
- (3) If so, the third step is to "determine whether the surrendered subject matter has crept into the reissue claim." *Id.*

The second step of this analysis, determining whether broadened aspects of the reissue claim relate to surrendered subject matter, cannot be carried out without first recognizing what claim scope, if any, the patentee previously surrendered by referring to the prosecution history "for arguments and

changes to the claims made in an effort to overcome a prior art rejection.” *Id.* The focus of this inquiry is to determine whether the patentee previously admitted, either explicitly or implicitly, that the scope of invention now claimed in a reissue application is not patentable, and thus should now be precluded from seeking such a claim scope. *See e.g., In re Clement*, 45 U.S.P.Q.2d at 1164 (stating that “the recapture rule does not apply in the absence of evidence that the applicant’s amendment was ‘an admission that the scope of [the pre-amended or cancelled claim] was not in fact patentable’”) (quoting *Seattle Box Co., Inc. v. Industrial Crating & Packing, Inc.*, 221 U.S.P.Q. 568, 574 (Fed. Cir. 1984)).

The legal authority has consistently defined “surrendered” claim scope in terms of the pre-amended or canceled claims, or at least based on an argument by the applicant made to overcome a prior art rejection. *See e.g., Hester Indus., Inc. v. Stein, Inc.*, 46 U.S.P.Q.2d 1641, 1649 (Fed. Cir. 1998). The Federal Circuit stated in *In re Clement* (the case relied on almost exclusively by the Examiner as allegedly supporting the outstanding rejection) that “[d]eliberately canceling or amending a claim in an effort to overcome a reference strongly suggests that the applicant admits that the scope of the claim before the cancellation or amendment is unpatentable.” 45 U.S.P.Q.2d at 1164 (emphasis added). Likewise, the Court reasoned in *Ball Corp. v. United States* that “[t]he recapture rule bars the patentee from acquiring, through reissue, claims that are of the same or broader scope than those claims that were canceled from the original application.” 221 U.S.P.Q. 289, 295 (Fed. Cir. 1994) (emphasis added).

The Court in *Ball* equated a pre-amended claim with a canceled claim for recapture purposes, and agreed with the lower court that the recapture rule did not apply to the case at issue because “the reissue claims were intermediate in scope – broader than the claims of the original patent yet narrower than the canceled claims.” *Id.* (emphasis added).

The Federal Circuit’s predecessor court likewise defined surrendered subject matter in terms of canceled or pre-amended claim scope, stating for example in *In re Byers* that “[i]t is evident that since the deliberate cancellation of a claim in order to obtain a patent constitutes a bar to the obtaining of the same claim by reissue, it necessarily also constitutes a bar to the obtaining of a claim which differs from that canceled claim only in being broader.” 109 U.S.P.Q. 53, 56 (CCPA 1956) (emphasis added). Appellants respectfully note that support for the expansive definition of “surrendered” claim scope on which the Examiner now relies to assert the recapture rule against claims 15, 16, 19-21, 24, and 25 is absent in the relevant legal authority (even in the legal authority on which the Examiner’s relies).

Furthermore, the Federal Circuit has recognized that, even when applicable, the recapture rule may be overcome by including relevant narrowing amendments. See e.g., *Hester*, 46 U.S.P.Q.2d at 1649-50. As discussed in detail below, even if the recapture rule were to apply for the facts of this case, the details of the claimed “bearing cartridge” that have been included in reissue claims 15, 16, 19-21, 24, and 25 sufficiently narrow these claims to overcome the recapture rule.

D. The Recapture Rule is not Applicable in this Case

By way of review, originally-presented independent claim 1 of the '857 Application recited a vertical turbine pump comprising, *inter alia*, a pump bowl assembly, a rotary impeller, and a diffuser core. Originally-presented dependent claim 4 recited a vertical turbine pump as defined in claim 1, further comprising: "a bearing cartridge separably fastened within said diffuser core, said bearing cartridge carrying axially space bearings which surround and rotatably support said drive shaft." In an Office Action dated April 25, 1995, Examiner Larson rejected independent claim 1 but indicated allowability of dependent claim 4 (as well as other claims). In an Amendment dated July 24, 1995, claim 1 was amended to recite the "bearing cartridge" specified in allowable dependent claim 4 and claim 4 was cancelled. The '857 Application was subsequently allowed and issued on March 5, 1996 as U.S. Patent 5,496,150 ("the '150 patent").

Appellants filed this reissue application based on their belief that the '150 patent contained errors as claiming less than Appellants had the right to claim. Such errors arose without deceptive intent. Claim 1 of the '150 patent erroneously recited specific details that unduly limited the scope of claim 1 in such a manner that a fundamental patentable feature that was a focus of the application was not adequately protected. [pg. 4 of the Supplemental Reissue Declaration filed January 7, 2000]. One such detail related to the recited "bearing cartridge" which was specified in patent claim 1 as requiring "axially spaced bearings" (i.e., a plurality of bearings). Appellants did not consider,

however, the inclusion of a plurality of bearings to be a significant aspect of their invention, and this language was merely carried over to claim 1 with the other language of allowable dependent claim 4.

It is important to recognize that nothing in the disclosure of the '857 Application suggests that Appellants considered a plurality of axially spaced bearings a significant feature for establishing patentability. The '857 Application simply placed no emphasis on this feature of the disclosed embodiment. Instead, the disclosure of the '857 Application emphasized how the vertical turbine pump configuration and the bearing cartridge therein enables an operator to service the pump in the field by accessing the bearing cartridge (which is particularly vulnerable to wear) from the upstream section of the pump casing by removing the impeller and sliding the separable bearing cartridge off the drive shaft. [See e.g., the Abstract; col. 5, ll. 17-31; and col. 1, ll. 40-51 of the '150 Patent]. Reissue claims 15 and 20 recite features of the disclosed "bearing cartridge" that emphasize this significant aspect of the disclosure, while removing the requirement that the bearing cartridge carry a plurality of bearings. For example, independent reissue claim 15 requires:

a bearing cartridge separably fastened to said diffuser core, said bearing cartridge surrounding and rotably supporting said drive shaft, said bearing cartridge being removable from an upstream section of said casing by removing said impeller and disengaging said bearing cartridge from said diffuser core thereby permitting said bearing cartridge to be slid off said drive shaft in an axial direction.

Independent reissue claim 20 includes similar language. Thus, independent reissue claims 15 and 20, although broader than patent claim 1 in the sense that a plurality of axially spaced bearings are not required, are

narrower than pre-amended claim 1 of the '857 Application (which did not require any bearing cartridge). Furthermore, independent reissue claims 15 and 20 recite and emphasize features of the "bearing cartridge" that were not recited in patent claim 1 so that the features of the claimed "bearing cartridge" are commensurate with what Appellants believed to be the significant aspects of their invention (as evidenced by the disclosure). It is important to recognize that no prior art rejection is outstanding against the claims on appeal. Therefore, recitation of axially spaced bearings for the claimed "bearing cartridge" was not necessary to define over the prior art.

Considering that independent reissue claims 15 and 20 are materially narrower than pre-amended independent claim 1 of the '857 Application, and recognizing that the relevant legal authority has consistently stated that "surrendered" claim scope resulting from amending or canceling claims relates, if at all, to a surrender of the pre-amended or canceled claim scope, and not claim scope which is materially narrower than the pre-amended or canceled claim, the recapture rule is inapplicable in this case. Furthermore, even if the recapture rule were applicable in this case, the "bearing cartridge" features that are recited in independent reissue claims 15 and 20, which were not present in claim 1 of the '150 patent and emphasize what Appellants have expressed as the significant characteristics of the claimed "bearing cartridge," overcome the recapture rule.

X. CONCLUSION

For the reasons specifically set forth above, the outstanding rejection raised in the Office Action should be reversed.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By


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APPENDIX OF CLAIMS

15. A vertical turbine pump comprising:
a pump assembly including a casing;
a diffuser core disposed in said casing;
a drive shaft extending through said diffuser core;
a rotary impeller fastened to an upstream end of said drive shaft; and
a bearing cartridge including an elongated housing having a bearing disposed therein,
said bearing cartridge separably fastened to said diffuser core,
said bearing surrounding and rotatably supporting said drive shaft,
said bearing cartridge being removable from an upstream section of said casing by removing said impeller and disengaging said bearing cartridge from said diffuser core thereby permitting said bearing cartridge to be slid off said drive shaft in an axial direction.
16. The vertical turbine pump as recited in claim 15, wherein an only active element removed to allow removal of said bearing is said impeller, and wherein the term "active element" refers to an element that is actively rotated or otherwise actively moved by said drive shaft when the vertical turbine pump is on.
19. The vertical turbine pump as recited in claim 15, wherein said bearing cartridge includes an engagement structure integral thereon and said

diffuser core includes a reciprocal engagement structure therein for receiving the engagement structure of said bearing cartridge.

20. An apparatus for facilitating servicing of a bearing from an upstream end of a vertical turbine pump incorporating a pump assembly including a casing, a diffuser core disposed in the casing, a drive shaft extending through the diffuser core, and a rotary impeller fastened to an upstream end of the drive shaft, the apparatus comprising:

a bearing cartridge including an elongated housing having the bearing disposed therein,

said bearing cartridge separably fastened to the diffuser core,

said bearing surrounding and rotatably supporting the drive shaft,

said bearing cartridge being removable from an upstream end of the casing by removing the impeller and disengaging said bearing cartridge from the diffuser core thereby permitting said bearing cartridge to be slid off the drive shaft in an axial direction.

21. The apparatus as recited in claim 20, wherein an only active element removed to allow removal of said bearing cartridge is the impeller, and wherein the term "active element" refers to an element that is actively rotated or otherwise actively moved by the drive shaft when the vertical turbine pump is on.

24. The apparatus as recited in claim 20, wherein said bearing cartridge includes an engagement structure integral therein and said diffuser

core includes a reciprocal engagement structure thereon for receiving the engagement structure of said bearing cartridge.

25. The vertical turbine pump as recited in claim 15, wherein said bearing is a sleeve-type bearing.